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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,012	03/31/2000	John S. Haikin	36J.P269	2555

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EXAMINER	
NGUYEN, MADELEINE ANH VINH	

ART UNIT	PAPER NUMBER
2626	

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/540,012	HAIKIN ET AL.	
	Examiner	Art Unit	
	Madeleine AV Nguyen	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-51,88-90,93 and 94* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-51,88-90,93 and 94* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 May 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date [redacted]
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 24, 2005 has been entered.

Applicant amends claims 1, 3, 8, 9, 11-13, 41, 43, 51, 88-90 and 93.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on October 09, 2003 and then resubmitted on August 24, 2005 was considered by the examiner.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3-35, 41-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ring et al (US Patent No. 5,754,184) in view of Gilman et al (US Patent No. 6,628,826).

Concerning claim 1, Ring et al discloses a method for managing color data to transform source color image data from a source device into destination color image data for rendering by a destination device (Figs.1 and 2) comprising the steps of obtaining the source color image data, wherein the source color image data is in a source color space (original image 34 is converted into input device color space data 38) corresponding to the source device (scanner or input device 36), (38, Fig.2; col. 5, lines 36-38); obtaining a source color data file corresponding to the source device (input device colorimetric model 44) wherein the source color data file contains colorimetric data (colorimetric values) and corresponding device signal data (scanned data from color patches), (44, Fig.2; col. 9, lines 1-46); constructing a source color transform based on the source device color characteristic data contained in the source color data file (Fig.5; col. 9, lines 3-24); applying the source color transform to the source image data (44) to transform the source color image data from a source device color space (38) into intermediate color image data in an intermediate color space (device independent color space values 42), (42, Fig.2; col. 5, lines 36-67).

Ring et al does not directly teach that a source device color characteristic data contains colorimetric data and corresponding device signal data. However, Ring teaches, in Fig.5, the creation of the input device model or transform (the scanner profile) wherein a model or transform 80 in the scanner profile relating the colorimetric values and scanner signals is constructed using techniques well known to those skilled in the art. Thus, the model or transform 80 includes colorimetric values and the device signal data (scanner data). In addition,

Gilman teaches a construction of an input or source device profile (capture device profile 60, Fig.3B) including the step of obtaining source device color characteristic data. From Fig.3A, the source device color characteristic data are colorimetric data 40 and device code values 44. The colorimetric data 40 is often in the form of a target description file (TDF) and the device code values are obtained from the digital image of the target. The colorimetric data and device code values are combined in the process described above to produce a profile (col. 6, lines 23-46). Gilman further teaches, "A profile is defined as "a digital signal-processing transform, or collection of transforms, plus additional information concerning the transform, device and data". (col. 3, lines 12-22). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine the teaching of Gilman to consider the colorimetric data and the device signal data taught in Fig.5 in Ring for the creation of the scanner profile are the source device color characteristic data as claimed since both of Ring and Gilman teach the creation of profile, defined as a digital signal processing transform, or collection of transforms, plus additional information concerning the transform, device and data.

Concerning claims 3, 8-35, 41-50, Ring et al further teaches that the color data file contains viewing condition data (col. 9, lines 8-10), (claim 3); the device signal data represents a set of input or output command signal values for the source device (claims 8, 10), (col. 5, lines 19-25); the measured colorimetric data represents a set of measured color values corresponding to a color image rendered by the source device (claims 9, 11), (col. 3, lines 48-65); the input command signal values are for the printer (26) and the set of measured color values rendered by the printer (claim 12); the source device is a scanner (10), (claim 13); the step of transforming the intermediate color image data into destination color image data in a destination device color

space (60), (claim 14); the step of incorporating the source color transform in a color transformation sequence and the step of applying the color transform sequence to the source color image data (Fig.2), (claims 15, 16); wherein the step of transforming the interim color image data into destination color image data includes accessing a destination color data file (50), constructing a destination color transform (48), transforming a set of color data from the intermediate color space to the destination device color space (60) by using a color profile, (claims 17, 18); the intermediate color space is a device independent color space such as CIE LAB, XYZ (col. 9, lines 7-11), (claims 19-22, 41-44); the construction of the source color transform is based on the viewing condition data or a set of desired viewing condition data and utilizes a color appearance model, a look-up table, polynomial function wherein the source color transform is a single variable or multi-variable transform (Figs.2-3; col. 3, lines 48-65; col. 4, lines 5-21; col. 5, line 19 – col. 7, line 32; col. 9, lines 1-63), (claims 23-31, 45-46); the step of optimizing the source color transform wherein the source image transform is formatted according to a predetermined standardized format (claims 31-35); the source color transform is stored in a memory, a device color profile wherein a source gamut boundary description is used in conjunction with a destination gamut boundary description (claims 47-50), (col. 5, line 1 – col. 9, line 32).

Concerning claims 4-7, Ring et al further teaches that the color data file contains viewing condition data (42) wherein the viewing condition includes specification data (col. 5, lines 36-63; col. 6, lines 10-22; col. 9, lines 8-10).

Ring et al fails to directly teach that the viewing condition data includes ambient colorimetric specification data, surround colorimetric specification data, background colorimetric

specification data or adapting field colorimetric specification data. However, in the Background of the Invention, Ring teaches that the viewing conditions are from different viewing environments (col. 1, lines 8-18) wherein ambient colorimetric specification data, surround colorimetric specification data, background colorimetric specification data or adapting field colorimetric specification data can be from the viewing environments too. In addition, in Fig.1, Ring et al teaches colorimetric specification 14 which includes different colorimetric specifications such as XYZ or separations such as CMYK in order to construct a source color transform to transform the source color image data from a source device color space into intermediate color image data as claimed (col. 5, lines 3-34). It would have been obvious to one skilled in the art at the time the invention was made to includes the above mentioned specifications in the colorimetric specification 14 in Ring et al system since all of the specifications are for transforming an image data from a source color space to an intermediate color space and the claimed specifications are commonly known in the art.

3. Claims 36-37, 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ring et al as applied to claim1 above, and further in view of Meir et al (US Patent No. 6,037,950).

Concerning claims 36-37, Ring et al fails to teach a set of tags for a set of viewing condition data corresponding to a set of viewing conditions. Meir et al discloses a method for facilitating image transfer between transform spaces comprising the step of providing a profile viewing environment which includes a tag table acting as a table of contents for the profile tags and the tag element data therein (Figs.1-3; col. 3, lines 39-40; col. 4, lines 13-28). It would have been obvious to one skilled in the art at the time the invention was made to combine the teaching

of a profile including a set of tags in Meir et al in the set of viewing conditions in Ring et al since Meir also teaches a viewing condition profile for facilitating image transfer between transform spaces of different sources and destinations.

Concerning claim 51, Ring teaches a method as discussed in claims 1-50 above. Ring further teaches the step of incorporating the source color transform in a color transformation sequence (Fig.2).

Ring does not directly teach that the source device color characteristic data is formatted according to a standard predetermined format. Meir et al discloses a device profile, which is standardized and defined as "a digital representation of the relation between device coordinates and a device independent specification of color" in the International Color Consortium (ICC) Profile Format Specification (col. 3, lines 30-49). It would have been obvious to one skilled in the art at the time the invention was made to combine the above teaching of Meir to consider the source device color characteristic data in Ring is formatted according to a standard predetermined format since both of Ring and Meir use device profile for transforming data from one color space to another different color space.

Ring et al fails to teach that the format of the characteristic data profile has a plurality of tags. Meir et al discloses a method for facilitating image transfer between transform spaces comprising the step of providing a profile which includes a tag table acting as a table of contents for the profile tags and the tag element data therein (Figs.1-3; col. 3, lines 39-40; col. 4, lines 13-28). It would have been obvious to one skilled in the art at the time the invention was made to combine the teaching of a profile including a set of tags in Meir et al in the colorimetric color

characteristic profile in Ring et al since Meir also teaches a profile for facilitating image transfer between transform spaces of different sources and destinations.

4. Claims 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ring et al and Meir as applied to claims 1-37 above, and further in view of Holm (US Patent No.. 6,249,315).

Concerning claims 38-40, Ring et al teaches that the source color data file is formatted according to a predetermined standardized format.

Ring fails to teach that the predetermined standardized format is an extended CGATS/IT8 format. However, it was commonly known that CGATS and IT8 are standardized format. Holm supports that well known in the prior art by teaching that "there is a proposal in the.ICC to allow another standard color space based on a standard monitor. This color space is an RGB space, making it more appropriate for uses with many capture devices, particularly RGB-type digital cameras and film cameras. This proposal is also being developed into a standard: "CGATS/ANSI IT8.7/4, Graphic technology-Three Component Color Data Definitions." (col. 6, lines 4-13). It would have been obvious to one skilled in the art at the time the invention was made to includes the standardized format of CGATS/IT8 in the format of the source color data file in Ring et al since Ring does not limit any standard format for the source color data file.

5. Claims 88-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ring in view of Meir and Holm.

Concerning claims 88-90, Ring in view of Meir, and Holm teaches a processor or a program memory for storing process steps executable to perform a method according to any of claims 1-51.

6. Claims 93-94 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ring in view of Ohsuka et al (US Patent No. 5,748,858).

Concerning claim 93, Ring discloses a method for managing color data to transform source color image data from a source device into destination color image data as disclosed in claim 1 above. Ring further teaches that the transformation of source color image data from the source device into destination color image data is for rendering by a destination (Abstract; col. 3, lines 47-52; col. 8, lines 61-67), and the steps of accessing a source color data file of the source device and destination color data file of the destination device; constructing a destination color transform based on the destination color data file.

Ring fails to teach the steps of generating a source gamut boundary description of the source device from the colorimetric data included in the source color data file, and a destination gamut boundary description of the destination device from the colorimetric data included in the destination color data file, constructing a gamut transform based on the gamut boundary of the source device and the destination device gamut boundary description; and applying the source color transform, the gamut transform and the destination color transform to the color image data. Ohsuka et al discloses a system and method for predicting a reproduced color image comprising a device profile generator 18 for generating a device profile group of devices profiles which represent characteristics of the image output units and characteristics of a color reproduction

process and color reproduction mediums. The device profile generator 18 has measuring units for measuring various physical characteristics as desired, established color space data conversion formulas, relationship formula and parameters used in the data processing in the image processor 16 as a device profile group, and stores the device profile group in a data file 36 (col. 5, lines 60-65). Furthermore, Ohsuka teaches that the device profile group is a collection of profiles representing, in a command data format, color processes in the image output devices, environmental condition in which they are used, physical factors and characteristics of material of a color original document and a recording medium, and formulas which couple these data. Basically, as shown in Fig.2, the device profile group includes a printing/common color space conversion profile group for generating a common color space conversion table, and RGB colorimetric system, an L*a*b* colorimetric system or the like, a gamut mapping/appearance conversion profile group for generating a gamut mapping/appearance conversion table for converting the gamut mapping and appearance of the color image data in the common color space into a desired gamut mapping and appearance in the image output unit (col. 5, line 66 – col. 6, line 23). Fig.5 is a diagram showing a hierarchical structure of basic profiles and sub profiles of a gamut mapping/appearance conversion profile group, and Fig.6 is a diagram of condition profiles of the gamut mapping/appearance conversion profile group (col. 9, lines 24-45; col. 11, lines 22-36). It would have been obvious to one skilled in the art at the time the invention was made to combine the teaching of the gamut mapping/appearance conversion profile group in Ohsuka for generating a source gamut boundary description of the source device and a destination gamut boundary description of the destination device and constructing a gamut transform based on the gamut boundary of the source device and the destination device gamut

boundary description since both of Ring and Ohsuka a device profile generator which can generate and construct color transform from device profiles stored in a data file.

Concerning claim 94, Ring in view of Ohsuka teaches a computer readable medium which stores computer executable process steps as disclosed in claim 93 above (col. 5, lines 1-55).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Muramoto (US Patent No. 6,954,286) discloses a color converting apparatus wherein color conversion table is generated easily in a simple operation by merging a printing condition profile for color conversion and a printer condition profile.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Madeleine AV Nguyen whose telephone number is 571 272-7466. The examiner can normally be reached on Monday, Tuesday, Thursday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A. Williams can be reached on 571 272-7471. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Madeleine AV Nguyen
Primary Examiner
Art Unit 2626

October 28, 2005